

WIC and the Nutrient Intake of Children.

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Nutrition Research Report No. 5.

Abstract

After controlling for self-selection bias, participation in the WIC program (Special Supplemental Nutrition Program for Women, Infants, and Children) has a significant positive effect on children's intakes of iron, folate, and vitamin B-6. Iron is one of the five nutrients targeted by the program, the others being protein, calcium, vitamin A, and vitamin C. Folate and vitamin B-6, along with zinc, were recommended by a 1991 USDA study as nutrients that the program should also target. The data set used, the 1994-96 Continuing Survey of Food Intake by Individuals, reflects the dramatic increase during the 1990's in the number of children in the program.

Keywords: WIC, nutrient intake, self-selection bias.

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March 2000

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Summary

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) grew significantly during the 1990's. Children now comprise the fastest growing group of WIC recipients. Because a large proportion of higher priority pregnant woman and infants already participated in the program, program expansion has allowed WIC to serve more children. Most analyses of the WIC program have focused on birth outcomes of pregnant women. This research has shown that participation in WIC reduces the incidence of low-birthweight infants thereby providing health care savings that substantially exceed program costs. Few studies have examined the impact of WIC on the nutritional outcomes of children. One premise of the WIC program is that food intervention during critical times of childhood growth and development can help prevent future medical and developmental problems. This study contributes to this issue by examining the effect of participation in WIC on the nutrient intake of children.

The data set used in this analysis, the 1994-96 Continuing Survey of Food Intake by Individuals (CSFII), captures the dramatic increase in the number of children in the program that took place during the 1990's. The nutrients of interest included the five targeted by the WIC program—iron, protein, calcium, vitamin A, and vitamin C—as well as three additional nutrients recommended for targeting in the WIC program—folate, vitamin B-6, and zinc. Nearly all children, regardless of whether or not they participated in WIC, met the Recommended Dietary Allowance (RDA) for protein and folate, and a large percentage of children met the RDA for vitamin C (81 percent) and vitamin A (75 percent). However, nearly half or more of all children, regardless of whether or not they participated in WIC, did not meet the RDA for iron, calcium, and zinc, and a third did not meet the RDA for vitamin B-6.

Using a least squares regression model, WIC was found to be associated with a significant increase in the intake of iron, vitamin C, vitamin A, vitamin B-6, and folate. However, there is the risk that unobservable differences between WIC children and income-eligible nonparticipants due to self-selection may result in biased findings. That is, the results will not accurately reflect the “true” impact of WIC on nutrient intake. For example, the parents of WIC children may be more motivated to improve their child's nutritional status than parents who choose not to participate in the program. Even in the absence of the WIC program, the WIC children might be more likely to receive nutritious meals (and therefore have high nutrient intake) than nonparticipating children. After controlling for possible self-selection bias by restricting the analysis to children residing in households in which another adult or infant household member was on WIC, participation in WIC was found to significantly increase a child's intake of iron, folate, and vitamin B-6.

Significant effects from WIC were found despite several factors that could understate WIC's impact on nutrient intake. First, children on WIC must demonstrate nutritional risk while income-eligible nonparticipating children are less likely to be at nutritional risk, thereby resulting in a negative bias against the program. Second, possible spillover effects, whereby another household member's participation in WIC positively affects the nutrient intake of a nonparticipating child, may also underestimate the program's impact. Results of the univariate analysis showed that the intake levels of iron, protein, and folate for children enrolled in the WIC program were significantly greater than those for children who, because of their high incomes, were not eligible for WIC. Together, these results indicate that participation in the WIC program has a positive effect on the nutrient intake of children.